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Subject:	DEQ Comments on LWG's Background TM
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Eric,
Here are DEQ's comments on the LWG's 2/27/06 "Approach to Determining Background" TM.

General Comments

1) Background vs upstream- The LWG's TM provides EPA's definition of *background*: "Substances present in the environment that are not influenced by releases from the Site and that are either naturally occurring or anthropogenic". The Portland Harbor Site boundary has yet to be determined. Uncontrolled sources of contamination upstream and in the vicinity of the current study area could be included as part of the Site or could be defined as separate Operable Units of the Site. While we agree that if upstream sources of contamination are not controlled by the time of remedy implementation, Portland Harbor cleanup goals can only be expected to achieve those incoming contaminant levels. However, *background* should be thought of as system-wide, ambient contaminant concentrations, not uncontrolled contamination from another part of the Site or an Operable Unit associated with the Site.

2) Oregon Rules on background- Oregon Cleanup Rules (OAR 340-122-040(2)) and guidance consider *background* as levels of hazardous substances that occur naturally, not as anthropogenic levels. EPA guidance takes a broader view of *background,* and considers anthropogenic input.

Specific Comments

1) Groundwater as background (Page 3, Section 2.1)- Groundwater should not be an example of an upstream input. Groundwater within the ISA (or bounds of the Site) is a potential ongoing source of contamination, not background.

2) Area-specific background for individual AOPCs (Page 4, Section 2.1)- DEQ guidance allows parties to use acceptable regional background concentrations or site-specific background concentrations. However, it is difficult to accept the notion of developing site-specific background values in a dynamic river system like the Willamette.

3) Protective goals for tissue (Page, 6, Section 2.2.2)- We agree that fish tissue concentrations cannot be directly remediated, and are dependent on other environmental media and food web interactions. However, it is important that protective levels be determined for fish tissue and that fish be monitored to determine remedy effectiveness.

4) Sediment background- mass (Page 7, Section 2.2.3)- The TM appears to consider concentration, but not mass. Upstream background concentrations in sediment could be compared to concentrations in bedded sediment at the Site, but what may be more important than comparing concentrations is comparing bioavailable contaminant mass. The incoming mass to site sediments may be such a large ongoing source that it would be the driver for tissue loading. Mass should also be considered in the evaluation of natural recovery.

5) Dredge pits (Page 7, Section 2.2.3)- Are dredge pits the best place to sample bedded sediment? One of the purposes of sampling bedded sediment is to evaluate historical contamination transported into the study from upstream. Bedded sediment data can be used, along with data from sediment traps, to evaluate contaminant loading from upstream sources. Dredge pits are low spots in the river that will naturally accumulate bed load, which we expect to be coarser grained than suspended load. We also expect the bed load to have lower contaminant levels than suspended load because of grain size. Bedded sediment samples should be collected in areas of deposition which may include, not be wholly restricted to, dredge pits.

6) Surface water background, (Page 8, Section 2.2.3)- The referenced text states that surface water background will not be used to directly assess the long-term effectiveness of remedial alternatives. Surface water will actually be remediated by cutting off sources and remediating sediment. Water is a very important pathway to tissue contaminant loading. Therefore surface water monitoring is very relevant to assessing the long-term effectiveness of remedial alternatives. Understanding surface water background will be part of understanding surface water in the Site.

7) Screening water concentrations, (Page 9, Section 3.0)- Water concentrations have not yet been fully screened to identify preliminary COPCs. This screening should be done before an evaluation of background is completed. The screening should include direct toxicity and bioaccumulation endpoints.

8) List of selected chemicals for background evaluation, (Page 10, Section 3.0)- Was this list derived with only site-wide bioaccumulative risk drivers in mind? Is the list complete (e.g., DDE, other phthalates, and other butyl tin compounds)? Will it be revised as iterations of the risk assessment moves forward?

9) Upstream fish tissue, (Page 10, Section 3.0)- One of the primary goals of the Portland Harbor project is to reduce Site fish tissue concentrations for the protection of human health and ecological receptors. Since that is an endpoint, it is relevant to quantitatively evaluate study area and upstream fish tissue concentrations to better understand how contamination upstream in ambient background areas is recognized in fish tissue. If this is not going to occur, we may not be able to place much confidence in a qualitative evaluation. Even for the purposes of risk communication, the data should be of sufficient amount and quality. Why is the fish tissue collected by the LWG well above the Site (approximately RM 22) not proposed for use? Other data sets are limited. Additional fish tissue upstream of the Site is also needed for the ecological risk assessment (esp. in the evaluation of metals).

10) Data at RM 9 (Page 11, Section 4.1, 4.2, and 4.3)- Data already collected or to be collected in the vicinity of RM 9 should be considered part of the Site, not background.

11) Additional tissue collection to fill data gaps (Page 12, Section 5.0)- The last sentence in Section 4.3 ("…additional tissue collection may be warranted to fill in data gaps and to determine how fish tissue concentrations within Portland Harbor ISA compare to fish tissue concentrations upstream…") and the last sentence of the 1st paragraph of Section 5.0 ("No additional tissue sampling is proposed for Round 3 because sufficient data are available to perform a qualitative evaluation of chemical concentrations in upstream fish tissue for the purposes of risk characterization") seem to be contradictory.

Additional upstream tissue data are needed, unless we determine current upstream data are acceptable. Data are needed to evaluate fish tissue concentrations for metals because metals are regulated by fish, and are also naturally occurring, we need background tissue concentrations to evaluate them in the risk assessment. In this manner, metals can be screened to identify COPCs.

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